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ABSTRACT

The purposes of this paper are to assist those currently considering the establishment of regional educational laboratories to better understand the complex organizational and interorganizational environment in which such laboratories would exist and to help officials make rational decisions regarding how best to facilitate educational service improvement within the three regions being considered for laboratories. A conceptual framework that can be used to clarify differences among existing school improvement efforts is outlined. It creates three organizational subfields: service delivery organizations (SDOs), knowledge producing organizations (KPOs), and service improvement organizations (SIOs). A typology of SIOs that distinguishes among them in terms of the strength of a particular organization's links to SDOs, KPOs, and other SIOs is also introduced. The typology is used to consider the advantages and disadvantages of three generic options for the creation of regional laboratories. In the last section of the paper, eight steps central to a process of rational decision-making regarding which options might be best for which region are presented. (Author/IRT)

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THE ORGANIZATIONAL AND INTERORGANIZATIONAL ENVIRONMENT OF NIE'S REGIONAL LABORATORIES:

A FRAMEWORK FOR RATIONAL DECISION MAKING REGARDING NEW LABS

ED196175

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1.0 Introduction

This is one of six working papers commissioned by the National Institute of Education's Task Force on Nationwide R&D Services.[1] Its purpose is twofold:

- to assist those within the Institute who are currently considering the establishment of "new"[2] regional laboratories to understand better the complex organizational and interorganizational environment in which such labs would exist; and
- to help officials at both the federal level and within each of the three "unserved"[3] regions under consideration as sites for new labs to make rational decisions regarding how best to facilitate educational service improvement within each region.

Section 2 introduces a conceptual framework that can be used to clarify differences among existing school improvement efforts within American public elementary and secondary education. The field of education is characterized in terms of three organizational subfields:

- service delivery organizations (SDOs) concerned primarily with the direct instruction of pupils or with the effective management of that instruction;
- knowledge producing organizations (KPOs) concerned primarily with the conduct of basic or applied research on topics of potential relevance to the subfield of service delivery; and
- service improvement organizations (SIOs) concerned primarily with linking the other two subfields.

Illustrations of each type of organization are provided and national estimates made of the number of distinct organizational units within each subfield.

Section 3 presents a typology of service improvement organizations that distinguishes among them in terms of the strength of a particular organization's links to service delivery organizations, to knowledge producing organizations and to other service improvement organizations. The resulting configuration

of interorganizational relations is used to consider the advantages and disadvantages of the following three generic options for the creation of new regional laboratories:

- the designation of an existing service improvement organization having strong links to service delivery organizations, knowledge producing organizations and to other service improvement organizations as a regional educational laboratory;
- the designation as a lab of an existing service improvement organization having strong links to two of the three subfields and willing to strengthen its link to the third subfield; and
- the creation of an entirely new organization, but not necessarily one having strong links to all three subfields.

Section 4 uses the conceptualization of the three organizational subfields (presented in Section 2) in conjunction with the typology of interorganizational configurations (Section 3) to suggest the following eight steps central to a process of rational decision making regarding which options might be best for which region:

- Identification of SDOs in presently unserved regions;
- Specification of major needs at each SDO-level within each region;
- Prioritization of the major needs of each SDO-level within each region;
- Identification of KPOs relevant to high priority needs;
- Identification of existing SIOs in each region;
- Mapping the interorganizational links of existing SDOs in each region;
- Reconsideration of assumptions about "ideal" regions; and
- Selection of most appropriate course of action for each region.

Although there are clearly political and economic constraints upon the degree to which choices regarding the establishments of any new labs can be made primarily on rational grounds, the eight steps can provide a useful structure for decision making within those constraints.

2.0 A Framework for Understanding School Improvement Efforts

The history of American public education can be seen as a series of gradual transitions from simple to more complex forms of social organization (Herriott and Hodgkins, 1973). The tutor-pupil dyads of early colonial America gradually gave way to one-room schools which in turn gave way to small systems of elementary and secondary schools which in turn gave way to large systems of elementary, junior high and senior high schools. Although most historic forms of educational organization can still be found in contemporary America, the predominant pattern today is one of large systems of many relatively highly differentiated organizations (see, for example, Brickman, 1964).

Associated with this trend towards increasing complexity in the "service delivery system" of American public education has been a similar trend toward greater specialization in the creation of knowledge about how children (and adults) learn and how that learning can best be facilitated in formal organizational settings (Sieber and Lazarsfeld, 1966). The early normal schools and autonomous teachers colleges concerned solely with the preparation of teachers for nearby schools gradually evolved into colleges of education within universities committed not simply to a broad range of instruction, but to large enterprises of research and community service (Clark and Guba, 1977). More recently, basic and applied research on educational phenomena, which were once the exclusive concern of colleges of education, has expanded first into university-wide social science institutes and then beyond the campus to a series of independent applied research firms serving

primarily federal agencies interested in the improvement of social services throughout the nation (Biderman and Sharp, 1972; Orlans, 1972; Ikenberry and Friedman, 1972).

In the earlier days of less complex organization in the delivery of educational services to children, and in the creation of knowledge about how to improve those services, the major connection between those who produced such knowledge and those in a position to utilize it was provided by professors of education (Clark and Guba, 1977). Initially, through their instruction of resident prospective teachers and administrators and later through summer courses and workshops for practicing educators, they served as the major link between the fields of research and practice. The earliest formal organizations committed to bridging these two fields were the various educational research and service bureaus which arose within many colleges of education late in the first half of the twentieth century (Dannenburg, 1970). As distinct from individual professors who continued to relate the results of research to teachers and administrators as individuals, the service bureaus often established formal interorganizational ties between a college of education and school systems in its immediate geographical area through the creation of "school study or development councils." Over time units to bridge research and practice were also established within state departments of education and within many of the largest public school systems. Then, with the passage of the Elementary and Secondary Education Act in 1965, a quantum leap occurred in the number and variety of such service improvement organizations. Currently, approximately 1400 schools/colleges/departments of education (Clark and Guba,

1977), 60 school study or development councils (National School Development Council, 1979) and 750 distinct federally-funded projects/programs/centers/institutes (Haswell, 1980) are engaged in some form of bridging between the fields of educational research and practice. In addition, all fifty states (Brickell, 1971; Educational Testing Service, 1973) and many of the larger local educational agencies (Dziuban, 1970; Mosher, 1969) and intermediate service agencies (Stephens, Bensimon, McAdoo and Gividin, 1979) have one or more organizational units devoted to service improvement activities.

The remainder of this section endeavors to communicate in a systematic way some of the complexity of the fields of educational research and practice and of the emerging field of educational service improvement organizations intended to serve as bridges between these two more traditional fields. First some formal concepts relevant to the study of organizations and interorganizational relations generally are introduced to provide a framework for systematically examining organizations in these three fields of educational endeavor. Then, in preparation for considering the implications of such a framework for policymakers and planners concerned with the possible enhancement of service improvement capabilities, the state of our current knowledge about each field is summarized.

2.1 Basic Concepts about Organizations and Interorganizational Relations[4]

The most basic concept essential to an understanding of the world of educational service improvement is that of organization--a social unit

devoted primarily to the attainment of specific goals. Organizations pursuing similar broad goals can be said to exist within the same organizational field. Fields can, of course, be defined at different levels. Education, health and criminal justice are each fields within the higher-level field of human services. Within the field of education, as in most fields, organizations can also be found to exist at many definitional levels (e.g., classroom, school, school system, state educational system) and at any given level there can be more than one organizational unit (e.g., the several classrooms within a particular school or the several specialized departments within the central office of a school system). Further, at any given level, an organizational unit can be viewed in one sense as the aggregate of units from a lower level (the school as the aggregate of its classes), or at the same level (the school system as the aggregate of the various departments in its central office), or both.

When several organizations establish lines of communication they can be said to form an organizational network. When such communication involves active transfers from one unit to another (e.g., of personnel, funds, ideas) the organizations can be viewed as being formally linked with the one unit being considered a sending organization and the other a receiving one. Of course, under different conditions, the same organizational unit can be viewed as both a sending and receiving organization--as in the case of the junior high school which both receives incoming students from various elementary schools and sends other students on to a senior high school. Finally, an organizational system is defined as a network whose interorganizational links are strong. (The distinction bein; "strong" and "weak" links is explicated in Section 3.1.)

The transition from such concepts as organizational unit, network, and system to the social realities of the field of education--as with all transitions from the abstract to the concrete--is not without definitional ambiguities. Thus, these concepts are best seen as defining "ideal types" (Weber, 1947) which serve primarily as heuristic devices for better understanding those realities.

One of the first definitional ambiguities encountered in attempting to apply organizational and interorganizational concepts to the realities of the field of education arises in identifying the number of distinct subfields that are to be assumed. If we define the concept of goals very broadly (thus producing a small number of subfields) we can easily be confused by the varying behavior of organizational units defined as pursuing similar goals. If we define the concept of goals very narrowly (thus producing a large number of subfields) we must contend with the analytic problems of keeping track of so many subfields. For the purpose of assisting policymakers and planners to decide how best to consider the issue of "new" regional laboratories, there seems to be considerable advantage in defining the field of education as consisting of the following three subfields (hereafter generally referred to as fields):

- educational service delivery (consisting of all organizational units concerned primarily with either the direct instruction of pupils or the effective management of that instruction);
- knowledge production relevant to educational services (consisting of all organizational units concerned primarily with the conduct of basic or applied research on topics of potential relevance to the field of educational service delivery); and
- improved educational service delivery through the application of relevant new knowledge (consisting of all organizational units concerned primarily with linking these two other fields).

As will be seen below such a definition of fields fails to produce three mutually exclusive and exhaustive organizational networks, but the resulting ambiguity seems to be limited to a few special cases.

A second definitional problem which must be acknowledged is that of what constitutes an organizational unit within each of these three fields. Ideally, one should try to be consistent in this respect so as not to confuse organizations at different definitional levels, but as will soon become clear, there is little uniformity across these three fields to capitalize upon. Thus it is necessary to be a bit flexible for most analytic purposes, particularly in those instances where a given organizational unit is best viewed as being simultaneously a member of organizational networks or systems within two fields; as in the case of a dissemination and utilization unit within a local educational agency which--because of the general goal of that agency--can be viewed as within the "field of educational service delivery" and--because of its own more specialized goals--can be viewed as being within the "field of improved educational service delivery through the application of relevant new knowledge." For the purpose of the analyses presented in this paper, organizational units at varying levels will be brought together conceptually into networks and systems in such a way as to minimize variation in goals within each field and maximize such variation among the three fields.

2.2 Service Delivery Organizations

The specific goals which define the field of educational service delivery are, as noted above, those associated with the direct instruction

of pupils and the effective management of that instruction. The most basic organizational unit within this field is the classroom. Other organizational units are schools, local educational agencies (LEAs) and state educational agencies (SEAs). In those states where intermediate service agencies (ISAs) have been created, either to offer specialized forms of instruction to pupils within selected LEAs or to assume specialized responsibilities for the organization of instruction, they too can be considered as being within this field. Within the typical school the various classrooms can be viewed as forming an organizational system, as can the various schools within a given LEA and the various LEAs within a given SEA. Whether a given ISA that is linked to either LEAs or SEAs forms an organizational system or network within them will depend upon the strength of those links. With the exception of this cavaet regarding ISAs, the field of educational service delivery is best viewed as a complex organizational system having five levels of "hierarchial differentiation" (Evan, 1976)--classroom, school, LEA, ISA (in some instances), and SEA.

It is, in general, rather easy to learn the identity of all organizational units at four of these five levels. Directories of schools, LEAs, ISAs and SEAs throughout the entire nation exist and tend to be updated annually in either print or machine readable form. In general, directories of classrooms (or more specifically classes) exist only for particular schools and occasionally for particular LEAs. From recent nationwide directories one learns that the United States contains 57 SEAs and approximately 1,200 ISAs (Stephens Associates, 1978), 16,000 LEAs (National Center for Education Statistics, 1978) and 90,000 schools (Curriculum

Information Center, 1979). By making some assumptions about the number of classes in the typical elementary, junior high and senior high school one can estimate that these 90,000 schools probably contain at least 2,000,000 distinct classes. Thus the system of educational service delivery organizations in America is both quite hierarchial and rather vast.

2.3 Knowledge Producing Organizations

In contrast to the field of educational service delivery with its hierarchial structure and vast number of organizational units, the field of knowledge production relevant to educational services is less structured and much smaller. The most basic organizational unit within this field is best thought of as a project--a small group of scholars pursuing a rather specific research issue for a short period of time. Often such projects can be aggregated into organizational systems known as programs--a larger group of scholars pursuing a more general topic for a longer period of time--but this is by no means typical of this field. The more usual pattern has been for projects to come and go in isolation from each other (Lazarsfeld and Sieber, 1964).

The exceptions to this historic pattern are worth noting, however, for they now constitute the organizational settings for the bulk of the funding of applied research on topics of potential relevance to the field of educational service improvement. At the highest level within that portion of the field of knowledge production associated with the most extensive funding are the university-based institutes for social research (e.g., the Institute for Social Research at the University of Michigan, the National Opinion Research Center at the University of Chicago)

and the independent research firms (e.g., Abt Associates, SRI International, Rand, Systems Development Corporation). Although the internal structure of such organizations varies somewhat from organization to organization, there are generally three or four distinct levels (at Abt Associates they are project, area, firm; at Michigan's ISR they are project, program, center, institute). The nine educational R&D centers currently being funded by the National Institute of Education (Panel for the Review of Laboratory and Center Operations, 1979) represent a third form of organizational system within the field of knowledge production relevant to educational service delivery and generally consist of three organizational levels (project, program, center). However, whereas the various institutes and firms generally pursue goals related to a range of human services (e.g., education, health, criminal justice, social services)--many of which have potential relevance to educational service delivery as well as to service delivery in these other fields--those of the NIE-funded centers are generally directed specifically toward a specialized area of the field of education (e.g., learning, school organization, evaluation, finance).

Although there are directories of knowledge producing organizations at the firm/institute level (Gale Research Company, 1979), they fail to describe the multi-level structure beneath that level. A major recent effort to survey the field of "research and research-related organizations in education" made an important start in that direction but encountered definitional and data collection problems which make it difficult to achieve such distinctions within their computerized data base (Sharp and

Frankel, 1979; Frankel, Sharp and Biderman, 1979). However, from the various pieces of the puzzle currently in place, it is possible to estimate that at any recent point in time the field of knowledge producing organizations (as defined above) contains over 10,000 projects, 1,000 programs/areas/centers and 200 institutes/firms. Again it should be remembered that the bulk of the funding of knowledge production relevant to educational service delivery is concentrated in a relatively few institutes/firms--Frankel, Sharp and Biderman (1979) report that the top 30 percent of the 2,400 relevant organizations they reached account for about 90 percent of the funding within that group of organizations. Most of the organizational units they were unable to reach are probably quite small and isolated.

2.4 Service Improvement Organizations

The field of "improved educational service delivery through the application of relevant new knowledge" seems to be the most complex of the three fields under consideration, because it has a large number of different organizational units, most of which exhibit few systemic properties. At the highest level there seem to be five dominant organizational forms, each having much variation both within this level and across various lower levels. The five forms are:

- colleges of education within universities, which through their instructional offerings to prospective and practicing educators indirectly affect behavior in a variety of service delivery organizations. Often such colleges have specialized units (e.g., a bureau of educational research and service) which deals directly with specific service delivery organizations (e.g., a group of LEAs) on specific educational topics (e.g., curriculum revision). However, in general, the links between colleges of education and service delivery organizations tend to be rather weak ones, characterized primarily by individual faculty members serving as independent consultants to public schools and not by formal interorganizational commitments.

- organizational units within the higher levels of the service delivery system (e.g., a teacher center within a LEA or ISA, or the division of research and evaluation within a SEA);
- systems of small organizational units within non-profit firms and associations (e.g., those regional laboratories currently funded by NIE having sets of projects and programs);
- small organizational units within professional associations of school teachers and administrators; and
- the many ad hoc organizational networks (e.g., the technical assistance and dissemination clearinghouses/centers/programs/projects) currently being funded by various operating agencies within the U.S. Department of Education.

The first four of these five forms of service improvement organizations seem to be well institutionalized, either through the traditions of their parent organizations (e.g., as units within universities, SEAs, LEAs, or professional associations), or through long-term federal funding (e.g., the NIE labs). The ad hoc networks seem to be more short-lived, with each new fiscal year seeing new projects/programs/centers created and some of the previously existing ones being terminated.

As in the case with the knowledge producing organizations described in the previous section, it is very difficult at present to form a detailed picture of the field of service improvement organizations throughout the entire nation. Published directories of most colleges of education (American Association of Colleges for Teacher Education, 1979) and of the more active school study or development councils (National School Development Council, 1979) are available. Within particular states knowledgeable individuals can generally identify those units within an SEA which are presently active in this field (Brickell, 1971) as well as those LEAs having units with specialized responsibilities in this field (Dziuban, 1970, Mosher, 1969), but there appears to be no active nationwide directory of such organizations. Through the efforts of Stephens Associates (1978) a directory of ISAs--a few of

which play a very active role in the service improvement (as distinct from service delivery) field--was prepared for the 1977-78 school year.

The picture with respect to the various federally-funded technical assistance/dissemination projects/programs/centers/institutes/clearinghouses is at present more complete, largely through a directory prepared by Harold A. Haswell (1980) in the Region VI office of what is now the U.S. Department of Education. His detailed listing identifies over 750 federally-funded organizational units, 14 of which offer a broad range of dissemination and/or technical assistance functions within multi-state regions, 49 of which offer a more limited number of functions throughout the nation as a whole, and 715 of which offer such more limited functions within either multi-state, single-state or sub-state regions. Many of these "centers" are linked to each other to form organizational networks of relatively isolated organizational units, but with few exceptions (most noteably some of the eight NIE-funded regional laboratories) there appear to be few multi-level organizational systems within this field (e.g., projects linked to programs linked to centers) of the type found in the fields of educational service delivery and of knowledge production.

Additional directories exist for private organizations and associations active in educational dissemination (Consortium of Associations for Educational Dissemination, 1978), databases and clearinghouses (Feaster, Peterson, Lynd and Bina, 1979) and specialized projects within SEAs (Cates, Malkas, Sulkis and Hood, 1979), but they provide little sense of either the degree to which these organizational units are institutionalized or are linked to each other in the form of organizational networks or systems.

Although knowledge about which organizational units offer what service improvement functions to whom is still highly fragmented with respect to all five forms of service improvement organizations, current efforts on the part of the Resource and Referral Service of the Research and Development Exchange (RDx) at Ohio State University to develop and publicize a series of "organizational profiles" can help to fill this gap. A useful example of what such profiles might contain can be found in the most recent descriptions of the 30 projects within NIE's State Dissemination Grants Program (Madey, Haenn and Strang, 1979). From the best available sources it is possible to estimate that there are at present well over 3000 service improvement units (at varying definitional levels) within the United States: 1400 schools/colleges/departments of education, 60 school study/development councils, 800 federally-funded clearinghouses/projects/programs/centers/institutes, and numerous units within SEAs, ISAs, LEAs and professional associations.

2.5 Summary

The human service field of education is quite complex. Through the use of an organizational and interorganizational perspective this section has attempted to reduce some of that complexity by defining this field to consist of three subfields, each bound by specialized goals of some relevance to the formal education of American children. The field of "educational service delivery" contains organizations concerned primarily either with the direct instruction of pupils or with the effective management of that instruction. The field of "knowledge production relevant to educational practice" contains organizations concerned primarily with the conduct of basic or applied research on topics of potential relevance to the field of educational service delivery. The field of "improved educational service delivery through the application of relevant new knowledge" contains organizations concerned primarily with bridging these two other fields.

Our current understanding of the specific organizational structure of the first field is quite advanced, that of the second field less so, and that of the third field rather fragmented. Our understanding of the existence of particular organizational units and the various organizational levels within each field is also quite incomplete, but again is more complete in the case of the first field than in the case of the second and third fields. Our knowledge of interorganizational links within fields is also more advanced in the case of the first field than in the case of the other two.

Given the rudimentary state of our knowledge about both the internal structure and the interorganizational dynamics within each of these three fields, what can be said about the current links that exist among organizations across fields, for it is this question which must be addressed thoughtfully by all who are concerned about the state of service improvement capabilities in those regions currently considered to be unserved by the existing NIE-funded laboratories. It is to this that we now turn.

3.0 A Typology of Service Improvement Organizations

During the past year or so officials, at both the federal and regional levels of American public elementary and secondary education, have been attempting to assess the adequacy of service improvement capabilities within each of the three regions currently considered unserved by one of the eight existing NIE-funded regional educational laboratories. The fact that our current knowledge about the organizational and interorganizational environment in which regional educational laboratories function is both incomplete and highly fragmented clearly hampers such attempts, as it would any effort of rational decision making. However, present decision makers must act on the basis of what is now known--or can be quickly obtained--no matter how incomplete and fragmented it might be.

This section offers one way of piecing together the various fragments of what is currently known about the organizational and interorganizational environments of regional laboratories and other service improvement organizations. It does this by proposing a typology of service improvement organizations in terms of the degree to which a particular service improvement organization exhibits "strong" or "weak" links to service delivery organizations, knowledge producing organizations and to other service improvement organizations.[5] In Section 4 we draw upon the conceptual framework introduced in Section 2--in combination with the typology presented here--to suggest eight steps which can facilitate a rational decision-making approach to the issue of "new" regional laboratories.

3.1 Some Distinguishing Characteristics of "Strong" and "Weak" Interorganizational Links

In introducing a distinction between organizational networks and systems (Section 2.1) an informal distinction was made between interorganizational

links that are "strong" and "weak". In this section an effort is made to explicate such a distinction so that it can be used to facilitate an analysis of both existing service improvement organizations within the field of education and any new organizations.

Unfortunately, there can be no simple and direct definition of the strength of interorganizational links. Most scholars see the issue of interorganizational links to be a highly complex one, involving many linkage dimensions, with different dimensions taking on different degrees of importance depending upon the analytic purposes of the investigator (see, for example, Evan, 1978; Marrett, 1971; Van de Van and Ferry, 1980). Of particular importance within the field of educational service improvement is a distinction between those links involving simply the transfer of knowledge and those designed to support efforts of technical assistance and staff development as well.

Perhaps the best that can be hoped for at the present time in introducing the concept of interorganizational link to the field of educational service improvement organizations is to provide some illustrations of what might be considered as strong and weak links within this field and between it and the fields of service delivery organizations and knowledge producing organizations. Four illustrative characteristics which seem to distinguish between organizations within this field are considered: degree of institutionalized identity, organizational recruitment patterns, the existence of formal interorganizational commitments, and interorganizational communication patterns. In any analysis of service improvement organizations the particular salience of each such characteristic is, of course, likely to vary with the degree to which a particular organization emphasizes technical assistance and staff development in addition to simply knowledge transfer.

3.1.1 Degree of Institutionalized Identity

An important attribute of service improvement organizations that have strong links to other organizations is the degree to which members of other organizations know of their existence and of the type of service improvement functions they are capable of performing. Although there is obviously great variation in this respect within each of the five broad categories of educational service improvement organizations identified in Section 2.4, as a group colleges of education--some of which have existed for over 100 years--seem to have the greatest institutionalized identity. Service improvement units within many SEAs and LEAs have also become well known to other relevant organizations, as have the eight NIE regional laboratories.

In general the least institutional identity can be found within the hundreds of technical assistance/dissemination centers funded by program agencies within what was until recently the U.S. Office of Education. Because of the current preoccupation with "single issue politics", at both the federal and state level, each year brings new legislation which permits (or requires) the establishment of a new specialized form of service improvement organization (e.g., one concerned exclusively with "alcohol and drug abuse education") and generally spells the demise of some other (e.g., "school vandalism and violence"). Under such conditions organizational units can easily come and go before knowledge about their existence--and the type of service improvement functions they perform--has become well understood and accepted within the various service delivery and knowledge producing organizations they are intended to link.

Although there is, no doubt, a positive correlation between the degree of institutionalized identity of an organization and its age--older organiza-

tions are likely to be better institutionalized than younger ones--these two concepts are not identical. Relatively young organizations can be viewed as having a high degree of institutionalized identity if there is a strong concensus within the networks and systems of which they are a part regarding the legitimacy of their goals and their ability to effectively pursue those goals (see, for example, Levine and White, 1961; Warren, 1967).

3.1.2 Organizational Recruitment Patterns

In addition to varying in the degree to which its goals are viewed as being legitimate and its capabilities acknowledged by other organizations within its network, service improvement organizations seem to vary in the type of personnel they recruit as professional staff members. In some instances there is a heavy reliance upon recruiting persons with broad experience in the various types of service delivery organizations with which a particular service improvement organization aspires to interact; in other instances the emphasis is upon recruiting persons with prior experience in knowledge producing organizations; and occasionally an organization will seek new personnel who formerly have been staff members of other service improvement organizations. In the absence of concrete evidence to the contrary it would seem reasonable to assume that those service improvement organizations that recruit most actively from knowledge producing organizations have stronger links to that field and that those service improvement organizations that recruit most actively from service delivery organizations have stronger links to that field.

3.1.3 Existence of Formal Interorganizational Commitments

The five broad categories of service improvement organizations noted in Section 2.4 seem to vary greatly in the degree to which formal inter-organizational commitments have been made between them and the various service delivery and knowledge producing organizations they are intended to bridge. In the case of relationships between service improvement organizations and knowledge producing organizations, such commitments seem to be most highly developed by colleges of education--which as organizational units with a larger university are able to turn to a variety of other organizational units (libraries, R&D centers, social science departments, other professional schools) for a variety of new knowledge of relevance to the field of educational service delivery. In the case of relationships between service improvement organizations and service delivery organizations, such commitments seem to be most highly developed with respect to service improvement units within LEAs and SEAs (because of their formal responsibility to provide service to those larger units), less well developed in the case of NIE's regional laboratories (whose governance structure involving representatives of LEAs and SEAs implies some commitment), and least well developed in the case of those ad hoc technical assistance/dissemination centers which lack any formal governance structure or interorganizational ties.

3.1.4 Interorganizational Communication Patterns

Various service improvement organizations also seem to vary greatly in the degree to which their staff members are in direct contact with individuals and ideas dominant within each of the other two organizational

fields and within other organizations within the service improvement field. To some extent such variation is the result of variation in institutionalized identity, organizational recruitment patterns, and formal interorganizational commitments but it may also be the direct result of other factors. Information producing contact can come from direct face-to-face meetings and conferences, telephone conversations, letters and memoranda, and particularly from reading the books, reports, articles and newsletters which originate in other organizations. In the absence of concrete evidence to the contrary, it seems reasonable to assume that service improvement organizations which have extensive contact with both a wide range of service delivery and knowledge producing organizations are in a stronger position to facilitate the application of new knowledge to the pressing needs of service delivery organizations than are service improvement organizations with less extensive contact.

3.2 Eight Configurations of Interorganizational Relations in Education

The four "dimensions" of interorganizational relations between educational service improvement organizations and other organizations used to illustrate a distinction between "strong" and "weak" links are best viewed as merely suggestive of distinctions between different service improvement organizations which ought to be taken into account by those planning for the possible enhancement of service improvement capabilities in various regions of the United States. Regardless of what specific indicators one elects to emphasize, considerable insight into the options available to planners can be obtained by describing and contrasting existing service improvement organizations in terms of eight basic configurations of inter-

organizational relations which distinguish between strong and weak links along the following interorganizational lines:

- links between a given service improvement organization (SIO) and those service delivery organizations (SDOs) whose capabilities it is committed to improving (i.e., SIO-SDO relations);
- links between a given service improvement organization and those knowledge producing organizations (KPOs) whose knowledge is relevant to its service improvement efforts (i.e., SIO-KPO relations); and
- links between a given service improvement organization and those other service improvement organizations whose capabilities are relevant to its own service improvement mission (i.e., SIO-other SIO relations).

Figure 3.2 portrays the eight types of SIOs so characterized. Given the existence of appropriate data, each of the over 3000 SIOs referred to in Section 2.4 could be assigned to one of the eight rows in Figure 3.2. For example, a SIO with strong links to service delivery organizations (SDOs), weak links to knowledge producing organizations (KPOs) and strong links to other SIOs would be classifiable as a Type SWS SIO (see Row 6 of Figure 3.2). Service improvement units within large city LEAs and some of the larger ISAs are probably of this type as are the many USDE-funded technical assistance projects/programs/centers/institutes not affiliated with a university. Such SIOs play an important role in the field of educational service improvement by disseminating knowledge among SDOs and SIOs about "best practices", but they are generally unable to relate such craft knowledge to the disciplinary-based knowledge emanating from KPOs.

In addition to assigning all 3000 service improvement organizations within the United States to one of the eight types suggested by Figure 3.2, separate assignments could be made for particular regions. In this way

Type of Service Improvement Organization	Strength of Link to:		
	Service Delivery Organizations	Knowledge Producing Organizations	Other Service Improvement Organizations
1. WWW	Weak	Weak	Weak
2. WWS	Weak	Weak	Strong
3. WSW	Weak	Strong	Weak
4. WSS	Weak	Strong	Strong
5. SWW	Strong	Weak	Weak
6. SWS	Strong	Weak	Strong
7. SSW	Strong	Strong	Weak
8. SSS	Strong	Strong	Strong

Figure 3.2 Eight Types of Service Improvement Organizations

profiles of the "interorganizational capability" of all service improvement organizations within each region could be established and used as guides in making decisions with respect to the need for additional capability. However, because of the fragmented nature of current knowledge about most SIOs, no attempt is made in this paper to provide such a classification. Instead the eight types are used to consider three generic options available to those considering how best to address the unmet service improvement needs of the Northeast, Southeast and Upper Midwest. It is to this that we now turn.

3.3 Three Generic Options in Creating New Regional Laboratories

Given the eight major types of service improvement organizations described in the previous section there are many strategies that could be employed by NIE in facilitating the creation of additional regional laboratories. Although it would be possible to consider how service improvement organizations (SIOs) of each type might be certified as (or transformed into) labs three general approaches seem particularly worthy of consideration:

- the designation of an existing service improvement organization having strong links to service delivery organizations, knowledge producing organizations and to other service improvement organizations (i.e., a Type SSS SIO) as a regional educational laboratory;
- the designation as a lab of an existing service improvement organization having strong links to two of the three subfields (i.e., a Type WSS, SWS or SSW SIO) willing to strengthen its link to the third subfield; and
- the creation of an entirely new service improvement organization, but not necessarily one having strong links to all three subfields.

In the sections which follow each generic option is presented and some of its advantages and disadvantages considered. Then in Section 4, eight specific steps which might be followed in determining which option might be best for each of the three regions currently considered to be unserved are outlined.

3.3.1 Funding an Existing Type SSS SIO

Type SSS service improvement organizations are those with strong links to service delivery organizations, knowledge producing organizations and to other service improvement organizations. As such they span all three of these important subfields of the field of education and can thus broker among organizations within their own field and between the other two. Although Type SSS SIOs might seem to represent the "ideal" form of service improvement organization for the field of education, such truly versatile organizations are currently hard to find. Several of the present NIE-funded regional laboratories--those with broadly representative boards of directors; formalized ties to SEAs, ISAs and LEAs; and professional staff members having both a broad balance of disciplinary and practical training and cosmopolitan ties to their counterparts in other regional labs--probably come closest to this ideal, but few, if any, of the existing eight NIE labs seem to do all this and also broker among the other SIOs within their region. Many of the existing NIE labs can best be seen as Type SSW SIOs who compete with each other (and with other SIOs within their respective regions) for the opportunity to link research and practice.

Although it is possible that Type SSS SIOs exist within the three regions currently unserved by the existing eight NIE-funded laboratories,

this is not likely. My recent telephone survey of approximately 30 persons knowledgeable about the field of educational service improvement organizations failed to reveal a single organization (other than some of the existing NIE-funded labs) perceived to have strong links to all three fields. If such a tentative finding is borne out by more systematic inquiry, it is probably best to think about the creation of a Type SSS SIO through the upgrading of one of the other seven types of SIOs, rather than through simply the funding of an existing Type SSS SIO.

3.3.2 Encouraging the Upgrading of an Existing Type WSS, SWS or SSW SIO

Although it is possible to think in terms of encouraging the upgrading of all of the seven other types of SIOs it would probably turn out to be most cost effective to consider only the upgrading of SIOs with strong links to at least two of the three fields--that is the Type WSS, SWS and WWS SIOs. However, it should not be assumed that such an upgrading of a single weak interorganizational link would be an easy matter; there are after all many structural, cultural and political reasons (in addition to the more obvious financial ones) why existing Type WSS, SWS and SSW SIOs have not already evolved into Type SSS SIOs. Type WWS SIOs are generally organizations subunits of universities (the ERIC clearinghouses being a good example). Such parent organizations traditionally have been reluctant to facilitate the establishment of strong ties to service delivery organizations. Type SWS SIOs are generally organizational subunits of service delivery organizations (e.g., teacher centers within LEAs or ISAs) where "disciplinary-based knowledge" is often viewed as less useful than the "craft knowledge" developed by teachers and other educational practitioners. Type SSW SIOs have, of course, already solved the problem of creating strong links to the

fields of service delivery and knowledge production (many of the existing NIE-funded labs being good illustrations of this), but have tended to develop a view of other SIOs as competitors for scarce federal dollars, rather than as potential colleagues in a regional system of collaborating SIOs. Thus it should not be assumed that it would be an easy matter to use the "bait" of new federal dollars to encourage the transformation of existing SIOs, even those which have already developed strong links to two of the three fields.

The above constraints on the ability of Type WSS, SWS or SSW SIOs to be transformed into Type SSS organizations emphasize factors internal to the organization itself or to its organizational superstructure. There are, in addition, constraints which can be imposed externally, particularly by those other SIOs with which a new lab would need to establish strong links. Often such constraints take the form of a reluctance on the part of one organization to see another organization assume new functions, interorganizational relations and particularly funding which it aspires to assume. Such interorganizational competitiveness within the service improvement field of any given region, if severe, could effectively block the transformation of any existing organization within that region.

3.3.3 Creation of an Entirely New Organization

If, as I suspect, Type SSS organizations do not exist in any of the three currently unserved regions, if the structural, cultural and political forces which have created existing Type WSS, SWS and SSW organizations are too strong to be redirected with whatever dollars are available for the creation and maintenance of a new lab or if interorganizational competitiveness is severe, it may be necessary to consider the creation of an entirely

new organization in each of the three regions. Under different conditions NIE might want to encourage the formation of a different type of SIO. For example, if the region currently contains few large SIOs or primarily SIOs having only one strong interorganizational link (i.e., Types WWS, WSW and SWW) it may be most expeditious to encourage the formation of a Type SSS organization. Under such conditions a new lab might best serve its region by assuming a broad range of RDDE functions through many strong interorganizational links. However, if the region is currently populated with many relatively large SIOs having many strong links the ideal form for a new SIO may be Type WWS. Such a service improvement organization is one without strong links to either service delivery organizations or knowledge producing organizations, but with strong links to other service improvement organizations. Although the WWS configuration might, at first glance, suggest a rather parasitic SIO--one surviving solely on the efforts of other organizations to bridge the fields of research and practice--such an SIO could play a very important role within the educational service improvement field within regions having a large number of SIOs linked to both SDOs and KPOs, but not linked to each other (i.e., a large number of Type SSW SIOs). In such a region a Type WWS SIO could play a valuable role as an "honest broker" between the various SDOs within its region and the various other SIOs that may be competing to address their needs. It could also play a role in helping existing Type WWW SIOs to strengthen their links to various relevant KPOs and SDOs. Thus the creation of a Type WWS SIO could provide a mechanism for developing a more cost effective division of labor among existing SIOs within a region having many SIOs, as well as encouraging more effective communication among SIOs having different geographical or functional specialties within that region.[6]

3.4 Summary

In this section the conceptual framework which introduced the fields of educational service delivery, knowledge production and service improvement in Section 2 has been expanded to present a typology of eight interorganizational configurations across these three fields. Central to that typology has been the concept of interorganizational link, and some illustrations of what is meant by "strong" and "weak" links have been provided. Although objective data about the types of links between the over 3000 service improvement organizations currently in existence and the various service delivery and knowledge producing organizations they are intended to bridge is both incomplete and fragmented, an effort has been made to distinguish among eight types of service improvement organizations.

It should be noted that none of these eight types of SIOs is either inherently "good" or "bad." Each seems to serve a different and useful function within the total organizational configuration of service improvement organizations within the field of American public elementary and secondary education. However, only some of the eight seem to hold special relevance in attempting to specify the characteristics for new regional educational laboratories. Thus, three generic alternatives for the creation of labs in the currently unserved regions--involving only five of the eight types--have been identified and some of their advantages and disadvantages discussed.

4.0 Eight Steps Toward Rational Decision Making

The final decision regarding what course of action NIE follows with respect to the potential enhancement of service improvement capabilities within each of the currently unserved regions is likely to be the result of many factors. Clearly both political considerations (whose interests, among many competing interests, are to be served?) and economic ones (what public funds are available, or can be made available, to pursue those interests?) are likely to play an important role. However, within such political and economic constraints rational choices will have to be made.

The conceptual framework presented in Section 2 and the typology of service improvement organizations presented in Section 3 have been developed to facilitate such rational choices, primarily by reducing the complexity of the phenomena to which they relate. Although such a reduction of complexity runs the risk of making the available choices seem too explicit, it has the advantage of focusing attention on the major issues to be considered.

In the eight sections which follow the conceptual framework involving service delivery organizations (SDOs), knowledge producing organizations (KPOs) and service improvement organizations (SIOs), the typology of eight types of SIOs and the three generic options are used in suggesting an eight-step process of rational decision making about new regional laboratories. Although these steps are introduced in a linear fashion (Step 1, Step 2,... Step 8) they are best viewed as guideposts for a series of iterations between policy objectives and pragmatic realities at both the federal and regional levels of American public elementary and secondary education.

In considering these eight steps it is important to keep in mind that reasonable people often disagree regarding the appropriate balance between

a rational approach and one which acknowledges the inherent ambiguity in most federally-funded organization development efforts. On the one hand are those at the federal level who argue that systematic implementation consistent with federal goals cannot proceed in a cost effective and responsible manner without systematic planning and its documentation. They often insist upon a specific period of documented planning and rational decision making prior to any program implementation effort. On the other hand are those at lower levels of government who argue that such preoccupation with planning and documentation produces perfunctory plans which are useful only to legitimate the endeavor on behalf of its federal sponsor. They see such preoccupation with planning as not only wasteful of their valuable time and energy, but counterproductive because it often alienates local practitioners and elected officials anxious to tackle, in more pragmatic ways, the major needs of their region.[7]

Those within NIE responsible for the design and establishment of any new labs will thus have to walk a fine line between too little and too much emphasis upon rational choice in the decision making processes they desire to stimulate. Given the differing perspectives noted above it is not a simple matter to determine just how much attention should be paid to rational choice regarding each affected region and whether such attention should occur (1) prior to the announcement of a competition to establish a new lab, (2) during the course of a competitive procurement process, (3) after an initial short-term award has been made, and (4) as an on-going formative evaluation activity of any lab given a long-term funding commitment. What is clear is that a rational decision with respect to the most appropriate course of action for each region (Step 8) is unlikely to occur without some attention to Steps 1-7.

4.1 Identification of SDOs in Presently Unserved Regions

Essential to rational decision making regarding the possible need for new "lab-like" service delivery organizations within those three areas of the United States currently thought to be unserved by the eight regional laboratories now receiving institutional funding from NIE will be an understanding of the diversity of service delivery organizations in those regions. Using the best available data, a compilation will need to be assembled of the SEAs, ISA, and LEAs which describes each of these three major levels of the service delivery system in each state in each region. For most states such information should be readily available through existing printed (or machine readable) directories of the type noted in Section 2.2.

4.2 Specification of Major Needs at Each SDO Level within Each Region

After a clear picture has been formed of the number and form of service delivery organizations that exist in each state at each level of that state's service delivery system, attention will need to be paid to identifying discrepancies between the service delivery responsibilities of each major organizational level and its current capabilities for meeting those responsibilities. Formal needs assessments will most likely have to be conducted--involving objective data where available (or easily obtained) and subjective judgments where it is not--to identify all serious discrepancies between the needs of each SDO level and its current capabilities.

4.3 Prioritization of the Major Needs of each SDO Level within each Region

Once a "shopping list" of the major needs of each major SDO level within each state within each region has been prepared a prioritization of

those needs will have to be made so that further planning can proceed in the light of potential budgetary or time constraints. For example, at this point in the planning process a decision might have to be made to concentrate exclusively upon the needs of SEAs (and their various organizational subunits) for service improvement assistance, on the assumption that assistance made available to SEAs would (at least in states with strong links between SEAs and LEAs) serve to benefit LEAs as well. Or a decision may be made to give priority to the needs of ISAs, or to those of a particular subset of LEAs (for example, those in rural areas). Regardless of what particular decision is made, a procedure will be needed to array the full range of needs at each major SDO level (e.g., SEA, ISA, LEA) and to establish priorities among them that are sensitive to political and economic constraints.

4.4 Identification of KPOs Relevant to High Priority Needs

Once the needs of highest priority SDOs have been identified attention should shift from the needs of SDOs to the relevance of recent (and current) research of the many knowledge producing organizations (KPOs) within the United States to those needs. Here the planners will need to look beyond the currently unserved regions, for knowledge production activities tend to be organized according to educational topic rather than geographical region. The nine R&D centers currently funded by NIE, for example, are best viewed as "national" resources, each focused on specialized range of educational phenomena (Panel for the Review of Laboratory and Center Operations, 1979). The creation of a directory of KPOs--with indications of the specialized capability of each--would, no doubt, be helpful as would a listing of the many national and regional dissemination channels (e.g., professional

meetings, disciplinary and interdisciplinary journals) known to be used by such organizations to make the results of their research available to others. Although the planners will want to acknowledge the important role that can be played by "field-based craft knowledge" in school improvement efforts, at this step in the planning process their emphasis should be upon "disciplinary-based scientific knowledge."

4.5 Identification of Existing SIOs in Each Presently Unserved Regions

Through the use of whatever published data currently exist (see Section 2.4) and the knowledge of key informants throughout the currently unserved regions a directory of existing service improvement organizations (SIOs) within each of the currently unserved regions will need to be prepared. Included in each directory should be information about the various research, development, dissemination, evaluation (RDDE) "functions" currently performed by each SIO.

4.6 Mapping the Interorganizational Links of Existing SIOs

The key to a rational approach to assessing the need for a particular type of new educational service improvement organization within the United States will be the mapping of all interorganizational links among those SIOs that now exist and between them and the various SDOs whose needs are to be given priority and the various KPOs whose research is potentially relevant to those needs. Such a map should permit discriminations among all relevant SIOs in terms of the various RDDE functions they currently perform and among all relevant KPOs in terms of the types of specialized knowledge they are producing (or have recently produced). It will also need to consider the strength of all current interorganizational links--those among SIOs, among SDOs, among KPOs, between SIOs and SDOs and between SIOs and KPOs.

Such a mapping process is obviously a complex undertaking. Its initial stages can probably be best accomplished centrally for the nation as a whole, rather than separately within particular regions. Perhaps, after the basic parameters of such a "map" have been established and the techniques for their measurement developed and validated, planning groups within each region could assume responsibility for on-going data collection and analysis. In order to facilitate the making of rational distinctions among what are likely to be a large number of SIOs in any given region (and a complex pattern of links between them and the various relevant SDOs and KPOs), the typology presented in Section 3.0 should prove useful.

4.7 Reconsideration of Assumptions about "Ideal" Regions

Once the various SDOs and their needs have been identified (Steps 1-2) and prioritized (Step 3), and once the various SIOs within a particular region have been identified and their capabilities and interorganizational links understood (Steps 4-6) it might be well to pause and reconsider all previous assumptions about the "ideal" grouping of states and/or their subdivisions to form new multi-state regions. The eight regional laboratories currently receiving institutional funding from NIE are the "survivors" of a group of nineteen SIOs established by the U.S. Office of Education during the 1960s to help meet the service improvement needs of elementary and secondary schools within various regions of the United States. The three "regions" currently considered to be unserved were previously served by as many as seven of these nineteen laboratories, each of which assumed responsibility for some portion of these three regions. Since the discontinuation of these former labs various other SIOs have evolved to address some of the

needs which they were originally intended to address for their particular grouping of state and sub-state areas. Thus, once all SIOs in any assumed ideal region have been identified (Step 5) and their relationships with high priority SDOs, KPOs and other SIOs within that region has been mapped (Step 6), it may be necessary to redefine just what states (and/or their subdivisions) best fit together to form an "ideal" region, particularly if the existing interorganizational links mapped in Step 6 imply "natural" regions different from those previously assumed to be ideal.

4.8 Selection of Most Appropriate Course of Action for Each Region

Once the issue of "ideal" regions has been resolved in the light of the best available evidence about existing SDOs, KPOs, SIOs and their inter-organizational links, attention can shift from a description of current needs and capabilities to a determination of that new organization within each region which can best facilitate the achievement of unmet service improvement needs. At this point it might be advisable to summarize within each region the number of service improvement organizations of each of the eight types specified in Figure 3.2. Consideration could then be given to the degree to which the existing number of each type of SIO seems to mesh with the service improvement needs of the region. Finally, an analysis of the anticipated costs and likely benefits of attempting to implement each of the three generic strategies suggested in Section 3.3 within each of the three currently unserved regions could be conducted. Since the types of unaddressed service improvements needs and the number and types of service improvement organizations available to address those needs are both likely to vary across the three regions, it is unlikely that a single alternative would be found to be most cost effective in all three regions. Thus provision will, no

doubt, need to be made for achieving federal service improvement objectives by creating and/or funding different types of SIOs within each of the three regions.

5.0 Notes

[1]Three of the other five working papers examine planning issues in providing R&D services to the three regions considered "unserved" or "only partially served" by the existing eight NIE-funded labs. These regions are the "Northeast," the "Upper Midwest," and the "Southeast." The fourth paper describes the structure and functioning of each of the eight existing labs, while the fifth one considers those interorganizational structures and strategies that are likely to maximize the effectiveness of any new labs.

[2]This document leaves open the issue of whether whatever "new" regional laboratories might be created would be existing organizations which might assume new functions, or entirely new organizations. (See discussion in Section 3.3.)

[3]Official documents prepared by NIE's Task Force on Nationwide R&D services use the term "unserved" when referring to the Northeast and Southeast and "only partially served" when referring to the Upper Midwest. In the interests of parsimony this document will use the term "unserved" when referring to all three regions.

[4]The terminology employed in this section represents a blend of some traditional sociological concepts about organizations and interorganizational relations (see, for example, Parsons, 1951, 1960; Thompson, 1967; Evan 1976) with the realities of the field of American elementary and secondary public education. For two other recent efforts of this type, see Huberman, Levinson, Havelock and Cox (1980); Yin and Gwaltney (1980).

[5]Because of the incomplete and fragmentary state of current knowledge about service improvement organizations in education and their relationships with each other and with service delivery and knowledge producing organizations, the presentation in this section must be considered highly speculative. Within the limits of time and budget associated with my assignment on behalf of the National Institute of Education I have examined those studies of such organizations as I could identify and obtain and have talked (mainly by telephone) with persons more knowledgeable about them than I. In addition, I bring to this task impressions formed during three years of direct involvement in one service delivery organization (a public school), eleven years of leadership responsibility in two knowledge producing organizations (four as director of university-based R&D center and seven as project director within an independent research firm), and fifteen years of consulting experience related to the design and management of service improvement organizations (primarily the regional laboratories now funded by NIE). In spite of this breadth of reading, interviewing and general experience the "evidence" presented in this section--particularly that with respect to which service improvement organizations are likely to be found within which cell of the proposed typology--must be viewed as tentative.

[6]For a case study of such an organization within the field of medical education, see Claman and Parker (1977). For a general discussion of the creation of new organizations, see Esman (1971).

[7]The theoretical underpinnings for the latter perspective are probably best explicated by Cohen, March and Olsen (1972). For detailed evidence on the tension between choice and ambiguity within a recent large federal school improvement program, see Herriott (1979, 1980).

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